AMENDMENTS TO THE SPECIFICATION

Amend the specification by inserting before the first line the sentence:

This is a divisional of Application No. 09/407,703 filed September 28, 1999; the disclosure of which is incorporated herein by reference.

Page 2, paragraph 1:

~~We~~ The inventors made intensive studies in order to achieve the above objects, and as a result, found that when using silicon carbide (SiC) as a target in a sputtering process or as an evaporation source in a vacuum evaporation process and changing the concentration of a reactive gas such as oxygen gas or nitrogen gas, there can be formed a thin film made primarily of SiC wherein the content of carbon is ~~so~~ controlled ~~as~~ to provide an arbitrary refractive index in the range of 1.4 to 2.8 (on measurement at 25°C) depending on the concentration.

Page 2, paragraph 3:

~~We~~ The inventors also found that when using silicon carbide (SiC) as a target in a sputtering process and changing making electric power against the target, ~~there can be formed~~ a thin film having an arbitrary refractive index in the range of 1.4 to 2.8 (on measurement at 25°C) depending on the making electric power can be formed. In this case, when sputtering is carried out while changing the concentration of a reactive gas, such as oxygen or nitrogen gas, there can be more effectively formed a thin film made primarily of SiC and having an arbitrary refractive index.

Page 3, paragraph 1:

It has also been found that when dry plating is effected in the first embodiment while changing the concentration of the reactive gas continuously or intermittently, the resultant dry plating film has ~~such~~ a refractive index which is changed in the form of a wave form, such as a rectangular wave, triangular form, sine wave form or the like, along the thickness thereof. Likewise, when sputtering is effected in the second embodiment while changing the electric power against the target continuously or intermittently and, optionally, changing the concentration of a reactive gas continuously or intermittently, the resultant sputtering film has a refractive index which changes in a wave form such as a rectangular, triangular, sine wave or the like form along the thickness thereof. If the film is used as a filter capable of passing an arbitrary band, a built-up film, which is useful as an anti-reflective film such as a visible light anti-reflective film or the like, can be simply formed.

Page 6, paragraph 3, which bridges over to page 7:

The silicon carbide sintered product makes use, as a sintering aid, of a non-metallic sintering aid alone at the time of sintering silicon carbide powder without use of a metallic sintering aid including a metal such as boron, aluminum, berylium or the like or compounds thereof, or without a carbon sintering aid such as carbon black, graphite or the like. Accordingly, the sintered product has a high purity with a reduced amount of foreign ~~matters~~ matter existing at grain boundaries, and has good thermal conductivity and is inherently better in stain resistance and abrasion resistance than carbon materials. Thus, the silicon carbide is able to form a thin

film adapted for use as a protective firm or a functional film of various types of electronic device parts and also as a thin film for surface treatment useful in improving the durability of various types of tools.

Page 8, paragraph 1:

The concentration (flow rate) of the reactive gas may be changed continuously or at appropriate intervals of time and is controlled in accordance with a required variation in refractive index. In this way, ~~there can be obtained~~ a film may be obtained whose refractive index is changed, along its thickness, in a desired wave form such as a rectangular, triangular or sine wave.

Page 8, paragraph 2:

On the other hand, when sputtering is performed using silicon carbide as a target, an arbitrary refractive index can be imparted to the resultant thin film by appropriately controlling (or selecting) making electric power against the target. When the sputtering is carried out while changing the making electric power against the target continuously or intermittently, ~~there can be obtained~~ a sputter built-up film can be obtained whose refractive index changes along the thickness of the film. In the case, although depending on the size of a target, the making electric power is within a range of 50 to 2000 W for a size of 100 mm ø and also within a range of 0.5 to 30 W/cm2 when expressed in terms of making electric power density in target.

Page 9, paragraph 3:

The change in making electric power against a target, and the change in concentration (flow rate) of a reactive gas, which is initiated, if necessary, may be effected continuously or at appropriate intervals of time and is controlled depending on the required change in refractive index. In this manner, ~~there can be obtained~~ a film whose refractive index is changed in a desired wave form, such as a rectangular wave, triangular wave or sine wave form, along a thickness thereof can be obtained.

Page 9, paragraph 4, which bridges over to page 10:

The dry plating film or sputter film consists of a film of SiCXOy alone (x and y are, respectively, an arbitrary number) or a film of a mixture of SIC, SiO, SiO2 and SiCXNy when the reactive gas used is oxygen gas, and a film of SiCXNy alone (x and y are, respectively, an arbitrary number) or a film of a mixture of SIC, Si3N4, SiN and SiCXNy when the reactive gas used is nitrogen gas. The content of carbon is controlled depending on the concentration of these reactive gases, and ~~there can be obtained~~ a thin film which is primarily made of SIC and whose refractive index is arbitrarily changed along the depth thereof within a range of 1.4 to 2.8, preferably 1.46 to 2.67 can be obtained.